UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,804	03/02/2000	Amit Gulati	9804-015-999	4426

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Pennie & Edmonds, LLP
3300 Hillview Avenue
Palo Alto, CA   94304

EXAMINER
WONG, ALLEN C

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _02 May 2003_ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-9,13,14 and 16-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-9,13,14 and 16-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claim 1 and 13 have been fully read and

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-9,13,14 and 16-22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Cheney (5,668,599) in view of Orbits (5,630,097).

Regarding claim 13, Cheney discloses a computer readable memory to direct a

computer to function in a specified manner, comprising:

a buffer management module to establish a first buffer size and a second buffer

size for a scalable buffer (fig.4, element 600 is a buffer management module that

appropriates the first and second buffer sizes for scalable buffer 601);

a video decoding module to process a video stream with said scalable buffer

configured to said first buffer size and said second size (fig.4, element 301); and

an analysis module to create memory utilization data characterizing cache

memory performance during the processing with said scalable buffer configured to said

first buffer size and during the processing with said scalable buffer configured to said

second buffer size, said analysis module including a buffer size adjuster to assign a

buffer size for said scalable buffer in accordance with said memory utilization data

(col.12, lines 13-45, fig.4, element 401 is the controller module or analysis module that

is interactive with all parameters presented element 401 for analysis; further, Cheney

teaches the adjustment of a buffer size register and a spill size register for minimizing

memory use and permit efficient decoding, as disclosed col.14, lines 25-36).

Although Cheney does not specifically disclose the limitation of wherein the

memory utilization data that includes cache miss rate data. However, Orbits teach the

limitation of wherein the memory utilization data that includes cache miss rate data

(col.7, ln.13-19; Orbits discloses that a cache management routine is applied for

reducing the cache miss rate, so clearly, Orbits' discloses the gathering of the cache

miss rate data in the memory utilization data). Therefore, it would have been obvious to

one of ordinary skill in the art to combine the teachings of Cheney and Orbits for utilizing

the memory utilization data that includes the cache miss rate data so as to enhance,

improve the cache memory performance. Doing so would speed the task of decoding

high quality images for viewing and save costs in the long run with smooth, efficient

memory performance routines.

Note claim 1 has similar corresponding elements.

Regarding claims 2, 14 and 15, Cheney discloses the definition of a buffer size

as a multiple of an encoded image data block in the form of a macroblock (col.13, ln.45

to col.14, ln.3; Cheney discloses macroblock image formats 4:2:0 and 4:2:2, where a

macroblock is a data unit that contains luminance and chrominance components, for

instance, 4:2:0 chroma formatted macroblock comprises data covering a 16 pixel by 16

pixel section of the video frame and 4:2:2 chroma sampling format comprising four 8x8

blocks of luminance data and four corresponding 8x8 blocks of chrominance data).

Regarding claims 3 and 16, Cheney discloses the use of a variable length

decoder (fig.4, element 311).

Regarding claims 4 and 17, Cheney discloses the use of an inverse discrete

cosine transfer function (fig.4, element 331).

Regarding claims 5 and 18, Cheney discloses the use of a motion compensator

(fig.4, element 341).

Regarding claims 8, 9, 21 and 22, Cheney discloses the adjustment of the buffer

size (col.14, lines 25-36, Cheney teaches the adjustment of a buffer size register and a

spill size register for minimizing memory use and permit efficient decoding).

Regarding claims 6, 7, 19 and 20, Cheney does not specifically disclose the use

of cache miss rates. However, Orbits teaches the use of cache miss rates (col.7, ln.13-

19; Orbits discloses that a cache management routine is applied for reducing the cache

miss rate, so clearly, Orbits' discloses the gathering of the cache miss rate data in the

memory utilization data). Therefore, it would have been obvious to one of ordinary skill

in the art to combine the teachings of Cheney and Orbits for utilizing the memory

utilization data that includes the cache miss rate data so as to enhance, improve the

cache memory performance. Doing so would speed the task of decoding high quality

images for viewing and save costs in the long run with smooth, efficient memory

performance routines.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Allen Wong
Examiner
Art Unit 2613

AW
July 15, 2003

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600